

Attorney Docket No. 030227

**REMARKS**

In the above amendments, claims 2, 5-10, 12, and 16-20 have been amended, claims 1, 11, 15, and 21-23 have been cancelled, and new claims 24-43 have been added. Therefore, after entry of the above amendments, claims 2-10, 12, 16-20, and 24-43 will be pending in this application. Applicants believe that the present application is now in condition for allowance, which prompt and favorable action is respectfully requested.

**I. OBJECTION TO THE DRAWINGS**

The Examiner objected to the drawings because they do not include reference signs 520a, recited in paragraph [0030] of the specification, and 520b, recited in paragraph [0034] of the specification. The inclusion of element numbers 520a and 520b in the original application were typographical errors. Applicants have amended the specification so that element 520a is now element 220a and element 520b is now element 220b, and therefore the objection with respect to the drawings is now moot, as elements 220a and 220b are shown in the drawings and previously mentioned in the text of the specification.

**II. CLAIM REJECTIONS UNDER 35 USC §112, SECOND PARAGRAPH**

Claims 11-14 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it was stated that the recitation "the signal to noise level" lacks antecedent basis in claim 11. Claim 11, which originally contained this limitation, has been cancelled. Claim 12, as amended, does not contain this limitation, and the rejection is now moot.

**III. CLAIM REJECTIONS UNDER 35 USC §102****A. Claims 1-4, 7, 8, 11, 12, 15 and 16**

Claims 1-4, 7, 8, 11, 12, 15 and 16 were rejected under 35 U.S.C. 102(b) as being anticipated by Larsson et al. (US Patent 5,956,642). Claims 1, 11, and 15 have been cancelled and the rejections with respect to those claims are now moot.

Claim 8 as amended recites, amongst other things, "determining a total received power at a receiver," and "adjusting a number of allocated sub-carriers based, at least in part, on the signal to noise ratio, the total received power and the number of currently allocated sub-carriers."

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Larsson et al. discloses that the "interference measurer 354 measures signal energy of signals generated on the lines 348, thereby to obtain indications of interference on channels formed of frequency and timeslot combinations not be used to transmit informational signals. (Col. 10, ll. 35-39). In another embodiment, Larson et al. discloses that "link receiver measures I on the set of N channels," where the "I measurements may be averaged with the results of a certain number of previous I measurements for each channel to obtain accuracy." (Col. 12, ll. 11-14). These recitations indicate that the signal energy is taken and determined for an individual group of N subcarriers that comprise a channel and not combined for all of the groups of N subcarriers of the M subcarriers or for all of the M subcarriers. Therefore, Larson et al. does not determine "a total received power at a receiver," as recited in claim 8. Therefore, for at least this reason claim 8 is allowable over Larson et al.

Claims 2-4 and 7 depend from claim 8, and are allowable for at least the same reason as discussed with respect to claim 8.

Claim 12, as amended, recites "determining a total received power at a receiver," and "scheduling a number of sub-carriers for a communication link ... based, at least in part, on whether the signal to noise is within the predetermined range, the total received power and the number of currently allocated sub-carriers." As discussed with respect to claim 8, Larson et al. discloses the signal energy is taken and determined for an individual group of N subcarriers that comprise a channel and not combined for all of the groups of N subcarriers of the M subcarriers or for all of the M subcarriers. Therefore, Larson et al. do not determine "a total received power at a receiver," as recited in claim 12. Therefore, for at least this reason claim 12 is allowable over Larson et al.

Claim 16, as amended recites, "a sub-carrier scheduler coupled to the signal to noise ratio determination module, the sub-carrier scheduler configured to schedule a number of sub-carriers based, at least in part, on whether the signal to noise is within a predetermined range and the total received power at the receiver." As discussed with respect to claim 8, Larson et al. discloses the signal energy is taken and determined for an individual group of N subcarriers that comprise a channel and not combined for all of the groups of N subcarriers of the M subcarriers or for all of the M subcarriers. Therefore, Larson et al. do not determine "a total received power at a receiver," as recited in claim 16. Therefore, for at least this reason claim 16 is allowable over Larson et al.

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**B. Claims 21-23**

Claims 21-23 were rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (US Pub. 2002/0089923). Claims 21-23 have been cancelled and the rejections with respect to those claims are now moot.

**IV. CLAIM REJECTIONS UNDER 35 USC §103****A. Claims 5 and 17**

Claims 5 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Larsson et al. in view of Wright (US Patent 6,570,444). Claim 5 has been amended to depend from claim 8, and is allowable for at least the same reasons as stated with respect to claim 8. Claim 17 has been amended to depend from claim 16, and is allowable for at least the same reasons as stated with respect to claim 16.

**B. Claims 6 and 18**

Claims 6 and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Larsson et al. in view of Magee et al. (US Patent 6,563,885). Claim 6 has been amended to depend from claim 8, and is allowable for at least the same reasons as stated with respect to claim 8. Claim 18 has been amended to depend from claim 16, and is allowable for at least the same reasons as stated with respect to claim 16.

**V. ALLOWABLE SUBJECT MATTER**

Applicants thank the Examiner for allowance of claims 9, 10, 19 and 20, which were deemed allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants have amended claims 9, 10, 19, and 20 to be in independent form and to include the relevant recitations of the independent claims from which they depended. Therefore, claims 9, 10, 19, and 20 are in condition for allowance.

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**VI. NEW CLAIMS**

New claims 24-27 depend from allowable claim 9 and are therefore deemed allowable by, at least, virtue of their dependence on claim 9.

New claims 28-31 depend from allowable claim 10 and are therefore deemed allowable by, at least, virtue of their dependence on claim 10.

New claims 32-33 depend from allowable claim 19 and are therefore deemed allowable by, at least, virtue of their dependence on claim 19.

New claims 34-35 depend from allowable claim 20 and are therefore deemed allowable by, at least, virtue of their dependence on claim 20.

New independent claim 36 recites, amongst other things, "a processor coupled with the detector and configured to ... increment a number of sub-carriers if a total received power is less than a minimum total received power, a number of currently allocated sub-carriers is less than a maximum number of sub-carriers, and the signal to noise ratio is greater than a predetermined maximum signal to noise ratio." This recitation is similar to that of allowed claim 19 and claim 36 is allowable for at least the same reasons as claim 19.

New claims 37-39 depend from allowable claim 36 and are therefore deemed allowable by, at least, virtue of their dependence on claim 36.

New independent claim 40 recites, amongst other things, "a processor coupled with the detector and configured to ... decrement a number of allocated sub-carriers if a total received power is greater than a maximum total received power, a number of currently allocated sub-carriers is greater than one, and the signal to noise ratio is less than a predetermined minimum signal to noise ratio." This recitation is similar to that of allowed claim 20 and claim 40 is allowable for at least the same reasons as claim 40.

New claims 37-39 depend from allowable claim 36 and are therefore deemed allowable by, at least, virtue of their dependence on claim 36.

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**CONCLUSION**

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

Dated: February 25, 2005

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